



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent
appln. of: Albert J. Frattarola

Serial No.: 09/803,221

Filed: March 9, 2001

For: **FLOATING CAPTIVE SCREW**

Examiner: Flemming Saether

Art Unit: 3679

Atty. Dkt.: 061-01

Mail Stop Appeal Brief - Patents
Commissioner for Patents
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Alex R. Sluzas
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Alex R. Sluzas, Reg. No. 28,669

Dated: July 27, 2005

TRANSMITTAL LETTER

Dear Sir:

Enclosed herewith please find the following documents for filing in the United States

Patent and Trademark Office:

1. This Transmittal Letter in triplicate;
2. Reply Brief; and
3. Acknowledgement post card to be date-stamped and returned to Paul & Paul.

No fee is believed to be required. In the event that a fee is required and no fee is provided herewith, the Office is hereby authorized to charge the required additional fees, or credit any overpayment, to Paul and Paul Deposit Account No. 16-0750, Order No. 3353.

Respectfully submitted,



Alex R. Sluzas, Esq.
Reg. No. 28,669

July 27, 2005

Order No. 3353

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PATENT

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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ALEX R. SLUZAS

(type or print name of person making deposit)

Signature of person making deposit

REPLY BRIEF

Sir:

This reply to the Examiner's Answer is submitted under certificate of mailing on
Wednesday, July 27, 2005 in response to the Examiner's Answer dated May 27, 2005
within two months of the Examiner's Answer and within the period for filing a reply brief
set by 37 C.F.R. § 41.41.

In his Answer, the Examiner contends that adding the spring taught by Ernst to
the "sound decoupling connecting element" of Damm would be an obvious improvement
because it would ensure that Damm's screws would be held by the spring away from the
"second part" such as a cylinder head, thus avoiding inadvertent contact between the
screw threads and the cylinder head that might otherwise occur if Damm's screws are
only being held in place by the "friction area pairing" disclosed by Damm.

The Examiner acknowledges that Damm repeatedly states that the friction area pairing permits the screw to be held in any intermediate position. However, the Examiner does not see any advantage in this capability, and believes that it would be obvious for one of ordinary skill in the art to add the spring, even at the expense of this flexibility, for the benefit the Examiner considers important.

However, adding the spring would reduce the flexibility otherwise provided by Damm's invention for use in automated assembly and unnecessarily increase the expense. Damm notes that his invention permits the screws of the contacting elements to be tightened all at once by a multiple "spanner," as is common in automobile factories. One of ordinary skill in the art would recognize that the ability to set the screws at any intermediate position would be an advantage for the manufacturer, since this would provide more flexibility in setting up the robotic assembly equipment. Adding the screw suggested by the Examiner would increase expense not only in the sense of having to pay for an additional, unnecessary part, but also in the sense that the elastomeric formed body would have to be made to more rigorous tolerances than otherwise, because addition of the spring would mean that the exact dimensions of the formed body would determine the position of the screw head. If the spring-bearing area of the formed body were not level, for example, the screw would be canted and might not align sufficiently with the robotic "spanner" to permit automated assembly of the cylinder head to the cylinder block. Similarly, while the added spring would position the head of the screw at the same "extended" position with respect to the bearing surface of the spring on the formed body, unless care is taken with the dimensional consistency of the elastomeric connecting element, the screw head would not necessarily be in the same position with respect to the parts to be connected, thus making automated

assembly unnecessarily problematic. It is well known in the manufacturing arts that expense increases sharply when tolerances must be tightened.

With respect to the applicant's argument that the addition of the unnecessary spring would make Damm inoperative or at least reduce its utility, the Examiner concedes that the addition of the spring would reduce the friction pairing (that Damm considered to be so important) and the bearing surface between the screw head and the elastomeric formed body. The Examiner contends, nevertheless, that the amount of friction area would be moot because the spring would negate the friction and the amount of area in contact between the screw head and the elastomeric body would be sufficient so as to not make that feature inoperative.

In reply, with respect to the friction pairing, applicant contends that the Examiner is simply substituting his own judgment for that of Damm by suggesting an "improvement" that the Examiner admits destroys a feature that Damm considered to be advantageous.

With respect to effect of adding the spring on whether the suggested combination is operative, one of ordinary skill in the art would understand the suggested combination to be a poor design that may create a host of problems. For example, if sufficient torque were applied to the screw to provide an adequate seal, because of the small contact area between the end of the spring and the elastomeric body would be required to transmit a substantial, concentrated force, the spring may damage the elastomeric body, which may destroy the required seal. Damm's original design provides a large contact area, and concomitantly spreads out the force over that area, thus providing the possibility of a much larger total force being applied than in the hypothetical "improvement." Further, there is no way to know whether Damm's sound reduction goal would be preserved in the suggested "improvement." On the contrary,

concentrating the force between the first and second parts (the cylinder block and head) to the drastically reduced area required by the Examiner's improvement may well adversely affect Damm's objective of noise reduction.

This rejection should be reversed.

With respect to the alternative rejection over Ernst in view of Damm, the Examiner contends that the proposed addition of Damm's collar would provide Ernst with a standoff useful in some applications, such as when a vibration damping material is being interposed between the two parts to be fastened by Ernst's captive screw. However, there is nothing in Ernst to suggest that he intended his captive screw for the hypothetical application suggested by the Examiner to reconstruct applicant's own invention. In the application for which Ernst intended his captive screw, the "obvious" modification suggested by the Examiner would reduce or destroy the utility of the captive screw. The proposed standoff would prevent the captive screw from being fully tightened to fasten the two parts together. Instead of being fastened securely, the two parts could be forced apart against the bias of Ernst's partially compressed spring, with potentially catastrophic results "in some applications." This is true whether or not a piece of elastic material is interposed between the two parts. Further, if Ernst's captive screw is going to be used for an application he did not envision or intend, to achieve a result he did not contemplate, then any manner of modifications may be called for. However, such modifications would not be obvious to one of ordinary skill in the art who was seeking to improve Ernst's captive screw for Ernst's purpose. While the Examiner has labeled this rejection as being over Ernst in view of Damm, by attributing Damm's purpose to Ernst, the rejection is substantively "Damm in view of Ernst," the merits of which have already been addressed. The rejection should also be reversed.

As all claims as amended are believed to be in condition for allowance, an early favorable action and reversal of the rejections entered by the Examiner are earnestly solicited.

July 27, 2005

Respectfully submitted,

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